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10/784,833	02/24/2004	Yasutsugu Morimoto	ASAM.0113	2581

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EXAMINER
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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/784,833	MORIMOTO ET AL.
Office Action Summary	Examiner	Art Unit	
	BRIAN L. ALBERTALLI	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-14</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>6-9</u> is/are allowed.

6)☒ Claim(s) <u>1,4,5,10,13 and 14</u> is/are rejected.

7)☐ Claim(s) <u>2,3,11 and 12</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 08-06)   **Office Action Summary**   Part of Paper No./Mail Date 20080316

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by

Liddy et al. (U.S. Patent 6,006,221).

In regard to claims 1 and 10, Liddy et al. disclose a text classification apparatus

and method comprising:

a text input device for receiving an entered text (Fig. 2, preprocessor 110, column

8, lines 42-45);

a storage device (Fig. 1, storage subsystem 35, column 6, lines 20-22) for storing

a concept thesaurus file for use in classifying an entered text to be classified (the

multilingual concept database (MCD) is used to convert input raw text to a plurality of

concept categories, i.e. word senses, column 11, lines 16-26), a cross lingual word

sense-based knowledge file corresponding to a plurality of languages including a first

and a second language (multilingual concept group correlation matrix (MCGCM) relates

concept groups in a plurality of languages, column 12, lines 23-31), and a word-based

classification knowledge file (term database used by PTI 210, column 16, lines 17-39);

a processing unit for executing a classification of the entered text to be classified

to assign a category to the text (Fig. 1, processors 30); and

an output device for outputting the classification result (column 5, lines 1-10),

wherein:

said text input device receives an entered text to be classified in the first

language (raw, unformatted text, the language of which is identified by language

identifier 120, column 8, lines 42-58);

convert the extracted word in to a word sense using said concept thesaurus file

(the MCD is used to convert input raw text to a plurality of concept categories, i.e. word

senses, column 10, line 63 to column 11, line 6);

compare the word sense resulting from the conversion with information on each

category included in said cross lingual word sense-based classification knowledge file to

calculate a first score for each category (the MCGCM is used during processing which

generates a category score for the text, column 12, lines 23-31 and column 15, lines 10-

17);

compare the extracted word with word classification information included in said

word-based classification knowledge file to generate a second score for each category

(PTI 210 generates term based scores for each term to indicate the term's importance

for category matching purposes, column 16, lines 17-41); and

integrate said first and second scores for each category for the first text to be

classified in the first language for assigning a category to the first text (score combiner

230 determines an appropriate matching, i.e. classifies the text as matching, column 19,

lines 4-19); and

said word-based classification knowledge file is generated by learning a word-

based classification knowledge using words included in a labeled text in the first

language (a large representative sample of documents in each language is used to

determine a term's uniqueness and importance, column 16, lines 34-39).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Liddy et al.

        In regard to claims 4 and 13, Liddy et al. disclose a display device (column 5,

lines 1-10), and a user input device or accepting entry from a user (column 4, lines 60-

67). Furthermore, the device of Liddy et al. generates a plurality of word sense

candidates for a single word extracted from the text to be classified (the MCD is used to

convert input raw text to a plurality of concept categories, i.e. word senses, column 10,

line 63 to column 11, line 6), and selects one of the word sense categories using

sources of linguistic evidence to disambiguate the word sense (column 11, lines 59-64).

Upon selection of a single word sense, the text classification apparatus changes a word

sense which is compared with information on each category included in said cross

lingual word-sense based classification knowledge file based on the selection to assign

a category to the text to be classified (after a single concept category is selected, the

MCGCM is used during processing which generates a category score for the text,

column 12, lines 23-31 and column 15, lines 10-17).

Liddy et al. do not disclose a process of displaying the choices to a user and

allowing a user to select a word sense using a user input device.

The technique of displaying a plurality of selections to a user and allowing the

user to selection a single selection through a user input device was a widely known

technique in the art at the time of invention. One of ordinary skill in the art would have

recognized that allowing a user to select one of the plurality of word senses would have

yielded the predictable result of disambiguating the word sense by a user selection and

provide the improvement of eliminating the additional processing needed for automatic

disambiguation. Thus, it would have been obvious to modify Liddy et al. to allow a user

to select one of the plurality of word senses through a display and user input device

type interface.

5.   Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Liddy et al., in view of IBM (*Algorithms for Disambiguating Word Senses in Thesauri*).

Liddy et al. disclose a display device (column 5, lines 1-10), and a user input

device or accepting entry from a user (column 4, lines 60-67).

Liddy et al. do not disclose the word sense resulting from a conversion of a word

included in the text to be classified by the concept thesaurus is compared with a word

sense in the cross lingual word sense-based classification knowledge file or the word-based classification knowledge file to extract contradictory word senses.

IBM disclose a system which disambiguates word senses using multiple sources of information. The system compares a word sense from the first source of information with the word sense from a second source of information to extract contradictory word senses (see full document). Furthermore, upon the identification of a contradiction, the contradiction is resolved "by hand".

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Liddy et al. to compare word senses from the cross lingual word sense-based classification knowledge file or the word-based classification knowledge with the word sense generated by the concept thesaurus to detect contradictions, then display the contradiction for the user to resolve through selection through a user input device, because this can improve the quality of automatically generated word senses, as taught by IBM (whole document).

Allowable Subject Matter

6.   Claims 2, 3, 11, and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Liddy et al. do not disclose or suggest the iterative classification and learning processes required by claims 2, 3, 11, and 12. That is, with respect to claims 2 and 11,

Liddy et al. disclose the word based classification knowledge file is learned from a previously labeled outside source (i.e. a large, representative sample of documents, see column 16, lines 37-39). Liddy et al. provide no teaching or suggestion of using text classified by the classification apparatus as additional learning material for the word based classification knowledge file. Thus, Liddy et al. do not reasonably disclose or suggest using text which has been classified by said text classification apparatus for learning word based classification knowledge, as required by claims 2 and 11.

Additionally, with respect to claims 3 and 12, Liddy et al. disclose the word-sense based classification knowledge file is learned from a large corpus of single language documents (see column 12, lines 34-43). Liddy et al. provide no teaching or suggestion of using the concept thesaurus file of the classification apparatus in the learning for the word-sense based classification knowledge file.

7.   Claims 6-9 are allowed.

The following is an examiner's statement of reasons for allowance:

Claim 6 requires generating a word-based classification knowledge file by extracting information indicative of a relation between a plurality of words from a labeled text in a first language. Liddy et al. disclose the word-based classification knowledge is generated from counts of particular words in a corpus (see column 16, lines 25-39). The word-based classification knowledge file of Liddy et al., therefore, does not extract any information indicative of a relation between a plurality of words from a labeled text in a first language. Thus, Liddy et al. do not reasonably disclose or suggest generating

a word-based classification knowledge file by extracting information indicative of a

relation between a plurality of words from a labeled text in a first language.

Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

Conclusion

8.　　The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Li (U.S. Patent 7,318,022) disclose a method of multi-lingual text

classification. Dahigren et al. (U.S. Patent 5,794,050) disclose a system that relates

word senses to classification categories. Church et al. (U.S. Patent 5,541,836) and

Bradford (U.S. Patent Application Publication 2002/0026456) disclose methods for

disambiguating word senses.

9.　　Any inquiry concerning this communication or earlier communications from the

examiner should be directed to BRIAN L. ALBERTALLI whose telephone number is

(571)272-7616. The examiner can normally be reached on Mon - Fri, 8:00 AM - 5:30

PM, every second Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David Hudspeth can be reached on (571) 272-7843. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BLA 3/24/08

/David R Hudspeth/
Supervisory Patent Examiner, Art Unit 2626